Claims

[1] A reflector comprising:

a heat radiating means composed of a concave mirror-shaped substrate;

a light-to-heat converting component arranged on the light-reflecting surface side of the heat radiating means for absorbing light of a predetermined wavelength range and converting it to heat;

a specific wavelength range reflecting component which reflects light of a specific wavelength range onto the light-to-heat converting component and permits light of the predetermined wavelength range to pass therethrough; and

a buffering component disposed between the light-to-heat converting component and the specific wavelength range reflecting component for buffering so that the light-to-heat converting component and the specific wavelength range reflecting component will not come in direct contact with each other and for permitting light of a predetermined wavelength range that passes through the specific wavelength range reflecting component to pass therethrough.

[2] The reflector according to Claim 1, wherein the light-to-heat converting component, the buffering component and the specific wavelength range reflecting component are laminated in the order mentioned over the reflective surface of the heat radiating means and joined in surface contact

with one another.

[3] The reflector according to Claim 2, wherein projections and indentations are formed over the joined interface where the light-to-heat converting component and the heat radiating means are joined.

[4] The reflector according to Claim 2, wherein projections and indentations are formed over the buffering component-side surface of the light-to-heat converting component.

[5] The reflector according to any one of Claims 1 to 4, wherein the heat radiating means is composed of a substrate having a thermal conductivity of 10 W/m·K or greater and also provides the function of the infrared-to-heat converting component.

[6] The reflector according to any one of Claims 2 to 5, wherein the light-to-heat converting component is formed by anodizing aluminum in an aqueous solution of chromic anhydride.

[7] The reflector according to any one of Claims 2 to 6, wherein the buffering component is film-formed on the light-absorbingsurface side of the light-to-heat converting component by calcining Si resin or polyimide resin at high temperatures.

[8] The reflector according to any one of Claims 1 to 7, wherein radiating fins are provided on the outer surface of the concave mirror-shaped substrate and integrally formed

with the substrate.

[9] A light source device including a reflector according to any one of claims 1 to 8, in addition to a light source.

[10] A projection display apparatus including a light source device according to Claim 9.